

WHAT IS CLAIMED IS:

1. A method of implementing optical channel access in a network comprising a plurality of distributed nodes, the method comprising:

requesting the optical channel access via radio-frequency (RF) messaging from one or more of the plurality of distributed nodes; and

granting the optical channel access to at least one of the plurality of distributed nodes based on the RF messaging.

2. The method of claim 1, wherein the optical channel comprises a free-space channel.

3. The method of claim 1, wherein the optical channel comprises an optical fiber channel.

4. The method of claim 1, wherein the plurality of distributed nodes comprise mobile nodes.

5. The method of claim 1, wherein the network comprises an ad-hoc network.

6. The method of claim 1, wherein the access request comprises a request-to-send (RTS) message.

7. The method of claim 1, further comprising:
denying optical channel access to another of the plurality of distributed nodes based on the RF messaging.
8. The method of claim 7, wherein denying optical channel access comprises:
sending an access denial message via RF messaging.
9. The method of claim 1, wherein granting optical channel access to the at least one of the plurality of distributed nodes comprises:
sending an access granted message via RF messaging.
10. The method of claim 8, further comprising:
subsequent to optical channel access denial, waiting a period of time before repeating the optical channel access request via RF messaging.
11. The method of claim 9, wherein the access granted message comprises a clear-to-send (CTS) message.
12. The method of claim 10, wherein the period of time is derived from a retry time contained in the access denial message.

13. A system for implementing optical channel access in a network comprising a plurality of distributed nodes, comprising:

a first node of the plurality of distributed nodes configured to request the optical channel access with at least one other node via radio-frequency (RF) messaging; and

a second node configured to grant the optical channel access to the first node based on the RF messaging.

14. A method of establishing an optical link between a first node and a second node in a network, wherein at least one of the first and second nodes comprises a mobile node, the method comprising:

sending a request message to establish the optical link from the first node to the second node via electrical signals over an electrically transmissive medium;

receiving a request denied or a request granted message from the second node via electrical signals over the electrically transmissive medium;

establishing the optical link between the first node and the second node based on the receipt of the request granted message; and

transmitting data between the first node and the second node via optical signals over the optical link.

15. The method of claim 14, wherein the optical link comprises a free-space link.

16. The method of claim 14, wherein the optical link comprises an optical fiber.
17. The method of claim 14, wherein the request denied message includes a time period that the first node is to wait before sending another request message to the second node.
18. The method of claim 14, wherein the electrical signals comprise radio-frequency (RF) signals and wherein the electrically transmissive medium comprises free-space.
19. The method of claim 14, wherein the electrically transmissive medium comprises a wired medium.
20. The method of claim 14, wherein establishing an optical link comprises:
pointing at least one steerable aperture at at least one of the first and second nodes; and
establishing the optical link via the steerable aperture.
21. The method of claim 20, wherein the steerable aperture comprises a telescope.
22. A first node in a network, comprising:
a non-optical transceiver configured to:

send a request message to establish an optical link from the first node to a second node via electrical signals over an electrically transmissive medium, wherein the second node comprises a mobile node; and
an optical subsystem configured to:

establish the optical link between the first node and the second node based on receipt of a request granted message, and

transmit data between the first node and the second node via optical signals over the optical link.

23. A method of communicating between first and second nodes in a network, comprising:
establishing an optical channel between the first and second nodes by transmitting electrical signals over a non-optical channel; and
communicating via the established optical channel between the first and second nodes.
24. The method of claim 23, wherein the first node comprises a mobile node.
25. The method of claim 23, wherein establishing the optical channel comprises:
steering a first optical aperture to point towards the second node from the first node; and
establishing the optical channel via the first optical aperture.
26. The method of claim 25, wherein establishing the optical channel further comprises:

steering a second optical aperture to point towards the first node from the second node;
and
establishing the optical channel via the second optical aperture.

27. The method of claim 26, wherein the first and second optical apertures comprise telescopes.

28. The method of claim 23, wherein the non-optical channel comprises a radio-frequency (RF) channel.

29. The method of claim 23, wherein the non-optical channel comprises a wired medium.

30. The method of claim 29, wherein the wired medium employs at least one of Ethernet, Internet, and ATM protocols.

31. The method of claim 23, wherein the optical channel comprises free space.

32. The method of claim 23, wherein the optical channel comprises an optical fiber.

33. A first node in a network, comprising:
a non-optical transceiver configured to:

transmit electrical signals over a non-optical channel and thereby make a request for establishment of an optical channel with a second node;

an optical subsystem configured to:

establish the optical channel between the first and second nodes responsive to a response to the request; and

an optical transceiver configured to:

communicate via the established optical channel between the first and second nodes.

34. A system for establishing an optical link with a mobile node in a network, comprising:
- means for sending a request message, to establish the optical link to the mobile node, via electrical signals over an electrically transmissive medium;
 - means for receiving a request denied or a request granted message from the mobile node via electrical signals over the electrically transmissive medium;
 - means for establishing the optical link with the mobile node based on receipt of the request granted message; and
 - means for transmitting and receiving data from the mobile node via optical signals over the optical link.